

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A structure used to raise persons by ~~means~~ use of air jets, comprising:

a flight position (3;5);

a jet generating device (1) associated with the flight position and generating a vertical air jet, the jet generating device comprising i) a suction-and-delivery conduit (4) having a suction inlet and a delivery outlet, the delivery outlet vertically arranged and ending in proximity of the flight position (3;5), and ii) a variable pitch propeller, the propeller driven by an electric motor machine powered from an electric energy supply source, the propeller located inside said suction-and-delivery conduit(4), the propeller drawing air into the suction inlet, generating a vertically upward directed air jet, and discharging the air jet from the delivery outlet;

a support structure (2) supporting the ~~that supports one or more flight position and the jet generating device; positions (3; 5) and respective devices (1) for generating vertical air currents or jets, each of these devices (1) comprising:~~

~~—a suction and delivery conduit (4), a delivery outlet of the conduit (4) being vertically arranged and ending in proximity of the respective flight position (3;5),~~

~~—a machine (6) for producing mechanical work, which is located inside said conduit(4), and is used to suck air from a suction inlet, of said conduit(4), thereby generating a vertically upward directed air current which is discharged from the delivery outlet;~~

~~one of an elastic membrane and a net or more elastic membranes or nets (3) being provided at each respective the flight position (3; 5) and in order to support the weight of a person also in the event of its free fall from a maximum predetermined height, and said elastic membrane or net (3), arranged above a respective the delivery outlet of a conduit(4), said one of the elastic membrane and the net being sufficiently permeable to the air to permit the passage of the air jet current that raises the person; wherein,~~

~~—the machine (6) for producing mechanical work is a variable pitch propeller, which is driven by an electric motor;~~

~~[[ - ]] an inverter [[ is ]] connected between the electric motor of the variable pitch propeller (6) and the electric energy supply source, said inverter being used configured to vary the a frequency of the electric current supplied to the electric motor of the variable pitch propeller(6); and~~

~~[[ - ]]~~ a balance (7) for determining a ~~is provided,~~  
~~which exactly determines the weight of a person to be raised over~~  
~~the flight position by the air jet discharged from the delivery~~  
~~outlet participating to the game, and the balance~~ electronically  
~~generates~~ generating an electric signal proportional to the  
determined ~~this~~ weight, said electric signal connected to control  
~~being used to control~~ the inverter to modify the frequency of the  
electric ~~motor input~~ current supplied to the electric motor,  
thereby reaching ~~the~~ a maximum number of rpm of the variable  
pitch propeller (6) ~~for this particular~~ the determined weight of  
the person, corresponding to an a suitable air jet current suited  
to raise ~~this~~ the person up to a maximum pre-set height.

2. (currently amended) A structure according to claim  
1, further comprising:

an electronic regulation system connected to adjust  
blade inclination of the variable pitch propeller (6), and

wherein said electric signal is ~~also used~~ further  
connected to the electronic regulation system to vary the pitch  
of the variable pitch propeller (6), ~~in order to be able to~~ and  
thereby modify ~~the~~ an air flow rate by the concurrent action of  
the inverter and of ~~[[an]]~~ the electronic regulation system ~~used~~  
~~to adjust~~ adjusting the blade inclination of the variable pitch  
propeller (6).

3. (currently amended) A structure according to claim 2, wherein the value of said maximum preset height is ~~comprised~~ in the interval 2.5-3 meters ~~metres~~.

4. (currently amended) A structure according to claim 1, wherein ~~each~~ the balance (7) comprises a central unit forming a connector, the ~~latter~~ connector being connected to an alphanumeric display located inside a control room (14).

5. (currently amended) A structure according to claim 4, further comprising:

sensors connected to the inverter, and

a decoder associated with the electric motor,

wherein the sensors detect ~~the~~ air flow velocity, and in the event of an excessive deviation of ~~the~~ an effective value from one of a the nominal air velocity value and a ~~or~~ desired ~~[[,]]~~ air velocity value, ~~they~~ the sensors cause, through the inverter, a controlled slowing down of ~~the~~ propeller (6) angular velocity, by the adjustment of the frequency of the electric ~~motor-input~~ current supplied to the electric motor, ~~[[;]]~~ said nominal air velocity value being ~~for instance the value that can~~ ~~be~~ determined based on the electric signal provided by the balance (7).

6. (currently amended) A structure according to claim 1, ~~wherein there are provided~~ further comprising:

means for storing ~~the~~ component usage time of ~~the~~ ~~various mechanical, electronic and electromechanical components of the structure,~~ and for storing the statistical information concerning ~~their~~ component failures ~~or possible~~ and potential component operation anomalies.

7. (currently amended) A structure according to claim 1, further comprising:

~~wherein the various flight positions (3; 5) include injury preventing means(5) , which surround~~ surrounding the one of the elastic membrane and net ~~membranes or nets (3) that are permeable to air, and which are for instance formed by pillows of polyurethane or pillows that automatically deflate in the event of impact by a person.~~

8. (currently amended) A structure according to claim 1, comprising:

plural of said flight position, wherein the plural ~~various~~ flight positions (3; 5) are distanced from each other to a sufficient degree to exclude contacts among persons at each flight position ~~the participants in the game; and~~

~~the structure comprising also~~

spectators stands (13) with rigid or defolmable parapets, ~~which in the former case are sufficiently distanced from the flight positions to prevent impacts by the persons at each flight position participants, even in the event of their fall.~~

9. (currently amended) A structure according to claim 1, wherein the structure ~~is made of several~~ comprises plural modules, each ~~of which includes various~~ module comprising plural flight positions (3; 5) and respective jet generating devices (1), each module including:

- N flight positions (1; 3; 5);

- N balances (7), each balance associated with a corresponding one of the N flight positions ~~so that each participant will have one respective balance (7) at his disposal, in order to speed up the weighing procedure; and~~

- ~~a number of 2 x N boxes (12 ; 12'), which is twice the number of flight positions (3; 5).~~

10. (currently amended) A structure according to claim 9, wherein each module further comprises:

~~- its own stands (13), which also serve as separation means between the various modules~~ a stand separating one module from another module;

~~- a respective control room (14), with an alphanumeric display used for monitoring the operation of the module and for the surveillance of the participants for this particular module, in order to be able to reduce for instance the air flow rate at a certain flight position, using said regulation system, if it seems that a person feels ill or is seized by panic;~~

~~- a cash desk (10), for getting an~~ with an entry ticket dispenser; and

~~- an enveloping screen (11) used for projections in three dimensions (3D).~~

11. (currently amended) A structure according to claim 1, further comprising an underground basin made of reinforced concrete, ~~wherein part of this structure, and in particular wherein the jet generating device devices (1) used to generate the vertical air currents, is received inside a~~ the ~~basin made of reinforced concrete, which is laid underground, that is, which is located below the level of the surrounding soil.~~

12. (currently amended) A structure according to claim 1, wherein the flight position, the jet generating device, the

support structure, the inverter, and the balance are disassembly  
from each other ~~this structure is easily disassembled and forms~~  
~~a structure for travelling shows or performances.~~

13. (currently amended) A structure according to claim  
1, ~~characterised in that: in order to minimise stresses on the~~  
wherein,

the electric motor comprises a drive shaft, and a joint  
connects the drive shaft to the variable pitch propeller, and

~~joints connecting the drive shaft of each motor to the~~  
~~respective variable pitch propeller(6), the said motors are never~~  
~~stopped in the time intervals between the various game turns, but~~  
~~are rotated instead~~

during operation, between operations of raising  
different persons at the flight position, the motor remain in  
rotation at a minimum predefined rpm, ~~say  $N_{min}$ , by pre setting in~~  
~~a corresponding manner, through the inverter, the frequency of~~  
~~the current supplied to the motor.~~

14. (currently amended) A structure according to claim  
1, wherein,

~~at the beginning of each game turn, after a~~  
~~person has "leaned" upon the vertical air flow of a flight position~~



~~(3;5), the air flow rate and consequently the air velocity in each flight position (3; 5)~~

during initial operation, an air velocity of the generated vertical air jet is progressively increased until the person participant has reached a maximum flight height, ~~which is preferably comprised between 2.5 and 3 meters; this operation~~

the progressive increase in the air velocity being performed by gradually increasing the rpm of the propeller (6), starting from a minimum predefined rpm  $N_{min}$ , by simultaneously varying the propeller pitch (6) and the frequency of the current through the inverter; wherein, moreover, said maximum flight height is determined by processing the electric signal provided by said balance (7).

15. (currently amended) A structure according to claim 1, wherein, during final operation, ~~at the end of each game turn~~ the inverter progressively reduces the rpm of the motor to a minimum predefined rpm  $N_{min}$  ~~the rpm of the motor~~ by varying the frequency of the ~~motor supply~~ electric current supplied to the motor, ~~thereby gradually returning the participant in a completely safe manner to the trampling level of the flight position(3 ; 5).~~